

ProCharger

Operating Instructions



These must be read
before starting use!

The ProCharger is one of the most modern and intelligent battery charger/diagnostic and test devices for motorcycle, scooter and quad/ATV starter batteries. It has a slide-switch for switching between 6 V and 12 V, and is suitable for all conventional lead/acid batteries as well as for all maintenance-free gel and AGM batteries - i.e. for all the battery types in the Louis range. It is also suitable for charging all maintenance-free gel, EXIDE and AGM batteries. The ProCharger operates with state-of-the-art characteristic-controlled charging technology to provide optimum charging and care for your battery. The intelligent software continuously monitors all its functions and automatically controls the charging process according to battery status. The battery can be left connected for months. Overcharging cannot happen. The cable sets are equipped with compact connectors, and can be connected to the battery using either clip connectors or ring terminals.

Operating voltage: 220-240 V ~, charging current up to max. 1 A

Usable temperature range: -15°C to +40°C

Charger dimensions (WxH(max.)xD): 10 x 6.5 x 15 cm

Special features:

- microprocessor-controlled, intelligent charging technology
- multi-stage charging characteristic (I/U_1-U_2)
- electronically protected against reverse polarity and short-circuit
- lead-battery activator (automatic battery care mode/desulphating)
- trickle charging
- charging and discharging function (ideal for winter storage)
- battery test function/fault detection
- manual switching between 6V and 12V
- max. charging current 1A (fully automatic adjustment)
- altogether 16 LED indicators in 4 colours for status
- 5 LEDs for five-stage capacity indication in % and graphical symbols
- 2 LEDs to indicate the charging voltage (6V and 12V)
- 4 LEDs for condition indication: heavily discharged, faulty, reverse polarity and fully charged
- 4 LEDs to indicate the basic functions 1 LED for 230V mains connection
- extra-long cables: charging cable 2.20 m and power cord 1.70 m
- including wall mounting kit (integrated into base of the unit)
- battery can remain permanently connected



Comprises: ProCharger, cable set with clip connectors for quick attachment, cable set with cable ring-terminals (eyes) for permanent connection to the battery, along with comprehensive operating instructions in German and English.

Intended use	6
Functional description of the lead battery activator	7
Warning and safety instructions:	9
Risks	12
Safety	17
Malfunction-instructions	21
Connecting and first use	22
Brief explanation/quick start	24
Charging	25
Fault display	32
Technical data and list of components supplied	33
Guarantee	34
Note on environmental protection	35
Packaging	36
Cleaning	37
If you have questions about the product...	38

Intended use

Using the charger as intended comprises charging and maintaining the charge of conventional, standard lead/acid batteries as well as of all maintenance-free, gel and AGM batteries for which the voltage and charging current quoted in the specifications are appropriate. No primary batteries (sink-carbon, alkaline etc.) or any type of battery other than lead-acid batteries may be connected and charged. Any other usage is deemed to be not as intended. The user/operator is alone responsible for any resulting damage.

Make very sure that you follow the instructions of the battery manufacturer.

Using the charger in any way other than as described above can damage the product and give rise to other risks such as a short circuit, fire, electric shock etc.

Functional description of the lead battery activator

It is the nature of lead batteries that, if properly treated, they are capable of lasting for between eight 8 and 10 years. In practice, however, the average useful life is well below what is possible, and it is seasonal use in particular that often leads to early failure of lead batteries. Many owners of motorbikes, vintage cars, boats, battery-operated lawnmowers and caravans are familiar with the problem of finding that the battery often fails the first time it is used in the spring. The culprit behind the early failure of many lead batteries is a chemical process known as sulphation. The lead sulphate contained in a battery has a tendency to develop clumps of crystals. This tendency is particularly strong when discharge is slow or during self-discharge. This reduces the plate surface area within the battery (crystalline sulphate covers the lead plates), and the capacity falls. The more the plates are covered, the less energy can be stored and subsequently released. Deposits of sulphate are the main reason for the failure of lead batteries. The lead battery activator integrated into the ProCharger works against the deposition of sulphate on the lead plates through periodic, intense pulses of up to 80 A.

How does desulphation work?

The crystalline sulphate deposits (sulphation) particularly tend to form in lead batteries that are not used for a relatively long time. This can be opposed by simulating normal operation. Charging and discharging are performed cyclically. Methods in which the batteries are subject to large, brief, pulses of discharging and recharging current produce even better results. Chargers that generate charging pulses risk applying too much voltage to the vehicle's electrical system. Some chargers apply an increased voltage (up to 20 V) when desulphating the battery. Because of this high voltage, this method requires the battery to be disconnected from the vehicle (there is a risk that the high voltage will damage the vehicle's electronic systems). For this reason, the designers of the ProCharger selected a method that uses discharge pulses.

Warning and safety instructions:

It is essential that the instructions in this introduction are considered before you use the device. The regulatory authorities require that we give you important information for your safety, and explain to you how you can avoid damaging the device or other equipment. The manufacturer is not liable for any damage arising from negligent or wilful failure to observe the instructions in this manual!

In order to avoid malfunction, damage or health hazards, the following safety instructions should also be followed:

- Please read these operating instructions through carefully, as they contain a lot of important information about operation and use. Only use the charger in accordance with these instructions. Dispose of any packaging material that you don't need, or store it in a place where it is not accessible to children. There is a risk of suffocation!
- If the charger or the connecting cables are damaged, it must no longer be used. You should have it repaired at a qualified workshop.

Warning and safety instructions

- Explosive gases that are hazardous to health can be generated when lead/acid batteries are charged. You should therefore only charge batteries in well-ventilated rooms. Avoid open flames and sparks. Do not charge any types of accumulators or batteries that are not listed in these instructions.
- Make sure that the charger's ventilation slots are not covered.
- The device must only be connected through an earthed socket for 230 V AC/50 Hz (10/16 A).
- Do not charge any lead/acid accumulators that are damaged or faulty. Never attempt to recharge dry batteries or those that are not rechargeable.
- Do not use the charger in the open.
- The device is not suitable for children.
- Do not wear any conductive jewellery such as chains, armbands or rings while you are using the charger.
- Make sure that you don't come into contact with the battery acid. Battery acid can cause severe skin burns! If you do come into contact with the battery acid, you should immediately flush it with lots of clean water, and consult a doctor if necessary.
- If the device is used for a long time at maximum charging current, it will become hot. You should therefore check the charging process at regular intervals. If anything is not right (excessive heating of the battery, the charger, heavy gassing from the battery) then pull out the mains plug and disconnect the battery from the charger immediately. Whenever you are not using the charger, or when you want to clean it, pull out the mains plug and disconnect the device from the battery. Never pull the cable itself to do this, but always take hold of the plug.
- Do not open or dismantle the charger, and do not attempt to repair it.

Risks associated with the use of the charger

The charger has been designed in accordance with the latest engineering standards and with the recognized rules for technical safety. Nevertheless, if wrongly used, there is a risk to:

- the life and limb of the operator or third parties
- the charger itself
- other property as a result of subsequent damage

Anybody who is involved with the initial operation, use, servicing or maintenance of the charger must closely follow these operating instructions. Malfunctions that affect safety are to be avoided and, if necessary, rectified promptly.

Do not open the device. Unauthorized opening of the housing and unsuitably performed repairs or modifications to the electronics, housing, cables etc. can present hazards to the user of the device and will invalidate the guarantee. Never connect or disconnect any cables during a storm, and do not use the device during a storm.

During operation, and at least once a week, the charger must be checked for proper operation while the power cord and the

charging cable must be checked for externally visible damage.

Note 1.1

Position the charger, the battery and the mains and charging cables in such a way that nobody can tread on or stumble over them.

Do not operate the device during frost or when there is a risk of frost in order to prevent the formation of water condensation. In order to avoid the risk of fire and the risk of an electrical shock, the device must not be exposed to rain or moisture. No liquid of any kind must be allowed to enter the device. For reasons of both safety and of official approval (CE), unauthorised modification and/or changes to the device or the connecting cable are not permitted.

Consult a qualified workshop if you have any doubts about the usage, safety or connection of the device. Every time you use it, check that the product and its connecting cables are not damaged. Never start using the device if the protective insulation on the mains or charging cables is damaged (crushed, torn, sheared off etc.). If you find that there is any damage, do not start to use the

charger, but take it to a suitable workshop. Even if the device appears not to have any function at all, it must be disconnected immediately and sent back to the manufacturer for repair.

Do not use the charger in rooms (or under unsuitable environmental conditions) where combustible gases, vapours or dusts are – or may be – present. Never cover the ventilation slots or housing. Do not put the device close to sources of hot air such as heaters. Do not expose the device to direct sunlight, heavy dust, mechanical vibrations or impacts.

Do not use the device close to or on materials that are combustible or easily ignited. Place it on a suitable, non-combustible underlay such as a large, thick porcelain tile or a stone slab. Do not allow the charging cable or the power cord to lie close to inflammable materials. Do not use the charger on a boat or other water craft. Before charging it, the battery must be taken out of the boat or water craft, and it must be charged in a suitable place.

Neither the charging cable nor the power cord may be modified by, for instance, lengthening or shortening. Similarly, they must not be kinked, squashed or passed over sharp edges. Any electrically

live cables or wires with which the device is connected must always be examined before and after use to check for insulation faults, breakages and crushed or bent locations.

Note 1.2

If a fault is found in the cable (if it is damaged), the device must be taken out of operation without delay. Only operate the device outside the vehicle. When connecting the battery charging clips, make sure that the connection is secure and tight.

Important! Do not continue charging if the battery is faulty.

Indications of a faulty battery:

- a smell of gas in the room
- you can feel that the cells are at different temperatures when you touch the battery
- mechanical or thermal deformation of the battery housing or charger
- different levels of liquid in the cells, or escaping liquid

To provide electrical power, the charger must be connected through the power cord to a proper mains socket (230 V~/50 Hz)

belonging to the public power supply network.

Operating under unsuitable environmental conditions must always be avoided. Unsuitable environmental conditions are: ambient temperatures lower than -15°C or above 40°C, the presence of combustible gases, solvents, vapours, dust, easily inflammable materials, heavy vibrations, strong magnetic fields such as are found close to electrical machines and loudspeakers, air humidity greater than 80 % or wet conditions.

The device must only be operated in rooms with a closed construction and that are well ventilated. Avoid exposing it to direct sunshine.

Do not put any containers such as vases, plants or similar items on or next to the charger or the battery. Liquids could enter the housing, and thereby impair the electrical safety. In addition, there would be a high danger of a fire or of a potentially deadly electric shock! If that happens, disconnect the product immediately from the mains voltage. (First switch off the mains socket, then remove the plug from the socket.) When that has been done, disconnect the charger from the battery. Do not use the charger

again; take it to an authorized service centre, to a dealer, or return it to the manufacturer for checking.

Safety

The product is not a toy. It is not suitable for children. Take particular care if there are children around. Children can sometimes try to stick objects into the device through the openings in the housing. This will destroy the device, and also creates a risk of death from electric shock! The product must only be set up, operated or stored in a place where it is not accessible to children. Children might modify the settings, or short-circuit the lead battery, and this can result in an explosion. Mortal danger!

Do not leave the packaging material lying around carelessly. It can become a dangerous toy for children.

The product is only suitable for charging 6 V or 12 V standard lead/acid batteries and all maintenance-free gel and AGM batteries. Other types of battery or accumulator must not be charged!
Risk of explosion!

Safety

Never leave the product to operate unsupervised, and this means that the charger and the charging process should be checked at regular intervals. In spite of the comprehensive, versatile protective circuits, incorrect function or problems when charging a battery cannot be ruled out.

Only operate the product in a moderate climate, never in a tropical climate. Observe the suitable environmental conditions described in the "Specifications" chapter (see page 33).

Choose a location for the device that is strong, large and smooth enough. Otherwise, there would be a risk of injury from the weight of the product should it fall down. It is also possible that the device would be destroyed. Do not use the device if it has been subjected to a heavy impact or if it has been allowed to fall down. In such a case, the device must be checked and, if necessary, repaired at a qualified workshop.

Although the charger does feature a large number of safety functions, the possibility of excessive heating of the battery or of the device can never be totally ruled out.

Make sure that it is adequately ventilated when operating. Never cover the charger or the battery to which it is connected. Always leave enough space (at least 10 cm) between the charger and the surroundings/wall, so that air circulation is not blocked.

Never connect the device to the mains voltage straight after you have brought it in from a cold room into a warm one. The water condensation that forms can sometimes lead to malfunction or to damage, and there is also a risk of a potentially fatal electric shock. Allow the charger (and the batteries) to warm up to room temperature first of all before you connect the charger to the mains voltage and switch it on. This can take a few hours!

Servicing, adjustment and repair work must only be done by a qualified technician/service centre.

There are no components inside the device requiring adjustment or servicing by the user.

In commercial establishments, the accident prevention regulations laid down for electrical equipment by the appropriate trade associations must be observed.

In schools, educational facilities, hobby and DIY workshops, operation of the product must be responsibly supervised by trained personnel.

If you are not certain about the proper way to connect or operate the device, or if you have any other questions that are not covered in the operating instructions, please contact our technical inquiry department (see page 38) or a qualified workshop.

Do not place the charger on top of valuable furniture; this also applies to storage when not in use. It is possible for chemical reactions with the rubber feet to cause discolouration, and pressure marks can also develop. Use a suitable underlay.

If the charging cable has been designed for a separate charging adapter, only the original adapter offered by your dealer must be used.

Never leave the charger to operate unsupervised. When the charger is not in use, disconnect it from the mains power and from the battery.

Never insert pointed objects (such as sewing or knitting needles, ballpoint pens, paper clips etc.) into the ventilation slots or other openings in the device; there is a risk of a potentially fatal electric shock and of destroying the device. Never place any objects or containers with liquid (such as vases, glasses, bottles) on or next to the charger or to the connected battery. Liquid that gets into the device can destroy both the charger and any battery that is connected, in addition to which there is a risk of a potentially fatal electric shock!

Malfunction – instructions

If the device does not function, check the following points:

1. Is the socket working properly and providing electrical power?
2. Is the lead battery that is connected faulty or heavily discharged?
3. Has the charger been connected to the lead battery with the correct polarity?

In order to avoid damage to the battery, it is essential to make sure that it is never discharged too deeply.

Connecting and first use

If the battery is charged while fitted in the vehicle, you must make sure that all the vehicle's electrically powered equipment, such as the ignition, radio, light, mobile phone, mobile phone charger and so on, are switched off. In some cases, it will be necessary to remove the lead battery or to disconnect it. It is essential that the warning instructions from the manufacturer of the battery and vehicle are observed. To charge the battery, first connect the red terminal (+) to the positive terminal of the battery, then the black terminal (-) to the negative terminal of the battery or to the vehicle bodywork.

Important! Connect the battery charger to the mains power (a socket that also meets the relevant specifications). Always disconnect the device from the mains before any connection to the battery is made or broken. The battery must be kept in a well-ventilated place while it is being charged. The battery's topping up or ventilation openings (cell plugs, if they exist, and if they can be opened) must be opened while the battery is being charged. We recommend that if your battery is not maintenance-free, it is removed from the vehicle for charging.

Hazards – instructions: Risk from wrong polarity, short circuits and contact with battery acid – it is essential that the safety warnings from the manufacturer of the lead batteries are observed.

Important! Battery acid is highly corrosive. Treat any acid spills on your skin or clothing with soapy water immediately, and rinse with plenty of water. If acid splashes get into your eyes, flush immediately with a lot of water and see a doctor quickly.

After charging: When charging is complete, the battery charger should be disconnected from the mains. Always do this by pulling the plug, not the cable! The charging terminals are then taken off the battery. The acid level should be checked on lead batteries that are not main-tenance-free. If the fluid level is too low, it must be topped up with distilled water. Hazard and safety warnings, and instructions from the manufacturer of the battery, must be observed.

Charging a battery with the negative connected to the vehicle body: The red charging terminal is first connected to the positive terminal of the battery, and the black terminal (negative) to the chassis of the vehicle (a conductive metal surface). Make sure that this terminal is not attached close to the battery or to the fuel line.

Brief explanation/quick start Using the device (first read all the safety and hazard constructions).

Set the battery voltage: Depending on what kind of battery you want to charge, set the slide switch to 6V (corresponding to 3cells) or to 12V on a 12V battery (corresponding to 6cells). Batteries with a capacity of between 3 and 100Ah can be charged.

Connecting to the battery: Connect the red terminal of the charger to the positive terminal (+) of the battery and the black terminal to the negative terminal (-) of the battery or to the vehicle bodywork.

Connecting to the mains: Now connect the battery charger to the 230 V mains power (a socket that also meets the relevant specifications). The battery charger should be disconnected from the mains when charging is complete. Only then should the connections to the bodywork and then to the battery be removed. The battery's topping up or ventilation openings (cell plugs) must be opened while the battery is being charged (if they do exist, and if they can be opened).

We recommend that if your battery is not maintenance-free, it is removed from the vehicle for charging.

Charging

The device will start the charging process automatically. If the ProCharger detects a heavily discharged battery (< 10.5 V / 5.25V) this is indicated by an LED. Charging of the battery continues. When the charging voltage rises above 10.5V, this is indicated by a capacity display in %. When a battery that has already been permanently damaged, and in which only a small proportion of its total capacity remains active, is charged, the "75 %" or "100 %" LEDs will light up very quickly. This only means that the active, intact part has been charged to 75 % or 100 %, not the whole battery. The LEDs for the % display can flash as the charge level changes (between 50 %, 75 % and 100 %). It is possible to use the battery as soon as the display changes to 100 %, as it is already nearly fully charged. Depending on the capacity of the battery (its size) and on its condition (age, degree of sulphation etc.) it can still take several hours after the 100 % LED has lit before residual charging is completed and the device changes over, first of all to test mode, and then into trickle mode. If the "75 %" indicator stays lit for a long period of time, or if the display does not reach the 100 % mark, this indicates that the charging current is still greater than 100 mA.

This can have the following reasons:

1. Due to its age, a permanent leakage current of around 100 mA or more is flowing within the connected battery.
2. The battery is being charged in (and connected to) the vehicle. Devices in the vehicle may be continuously drawing some current, and this current, together with the battery's residual charging current, adds up to more than 100mA.

If all the test criteria are satisfied after charging and the battery is found to be "Healthy", the charger switches the "Done" ("Fertig") LED on and enters trickle mode. At the same time, the "Charging" ("Laden") LED goes out, and the program switches to "Trickle" ("Erhaltungsladen"), which is again indicated by an LED. This means that the battery is charged and ready to operate, and it can be disconnected from the charger. Then remove the mains cable from the socket. Always do this by pulling the plug, not the cable!

The acid level should be checked on lead batteries that are not maintenance-free. If the fluid level is too low, it must be topped up with distilled water. Follow the battery manufacturer's instructions.

Full description of the charging process

After the battery type has been set by the slide switch, and a 6V or 12V lead battery (conventional, standard lead/acid batteries, as well as all maintenance-free gel and AGM batteries) has been connected, the "Reverse polarity" ("Verpolt") LED will light up if the battery has been wrongly connected. If the voltage of a properly connected battery is above 14.3 V (for a 12V battery), or above 7.15V for a 6V battery, the "Faulty" ("Defekt") LED will flash, as will the "6 V" and "12 V" LEDs. If the voltage is in the range between 0.5 and 7.15 V (6 V battery) or 0.5 and 14.3V (on a 12V battery) the device enters charging mode.

If the ProCharger detects a heavily discharged battery (< 10.5V/ 5.25V) this is indicated by an LED. Charging of the battery continues. When the charging voltage rises above 10.5 V, this is indicated by a capacity display in %. Note: if the "Heavily discharged" ("Tiefentladen") LED lights up, this can have two causes: a 6V battery may have been connected, but the slide switch (for setting the battery voltage) was accidentally set to 12 V. If, even though "Heavily discharged" ("Tiefentladen") is indicated, the voltage setting (done with the slide switch) matches the connected battery, then it really is a case of a heavily discharged 12 V battery.

Charging

The battery is first charged at a constant current (I-phase) until the end-of-charge voltage (14.3 V/7.15 V) is reached. The voltage is then held constant (V1-phase) and the charging current adapts to the level of charge in the battery. The fuller the battery, the lower the charging current. If the charging current falls below about 100 mA, the charging process is halted and the charger switches automatically into test mode. The test draws a defined load current from the battery. If the voltage of the loaded battery falls back to its rated value, this indicates a high internal resistance or a high level of sulphation. In that case, the device attempts to bring the battery back to life. In this process, the battery is subjected to short charge and discharge cycles for an hour [the "Care/desulphation" ("Pflege/Entsulfatierung") LED lights up]. During charging, the charging current is set to a maximum of 330 mA, and the battery voltage to a maximum of 14.3 V. The discharges used here consist of a discharge pulse of about 80 A (maximum) that lasts for about 100 µs. This mode deliberately avoids the use of "high voltage" charging procedures (between 20 and 30 V), as is done by the chargers from some other manufacturers, since this method requires the user to remove or disconnect the battery, and this is not always desirable. If the user ignores this rule the highly sensitive electronic devices in modern vehicles can be damaged.

When this reactivation process is complete, a new charging procedure starts. After this, a test is carried out yet again. If the battery does not pass this test the charger considers it "Faulty". The device switches itself off, and the "Faulty" ("Defekt") LED is lit. If, however, all the test criteria are satisfied and the battery is found to be "Healthy", the charger switches the "Done" ("Fertig") LED on and enters trickle mode. At the same time, the "Charge" LED goes out, and the program switches to "Trickle" ("Erhalten") (V2 phase), which is again indicated by an LED. This means that the battery is charged and ready to operate, and it can be disconnected from the charger. If, however, the battery remains connected to the charger, the program will perform "trickle charging" for a period of 60 minutes. The charging current is now adjusted so that the battery voltage is automatically maintained at 13.8 V/6.9 V. After these 60 minutes, the device automatically switches into maintenance mode. At this stage the "Trickle" LED ("Erhalten") goes out, and the "Maintenance/desulphation" ("Pflege/Entsulfatierung") and "Done" ("Fertig") LEDs are lit (lead battery activator on). If the device detects that the battery voltage has fallen below 12 V (or under 6 V) in maintenance mode it will start the programmed sequence from the beginning again. In order to minimize or to disperse deposits of sulphate on the lead plates, the battery in this

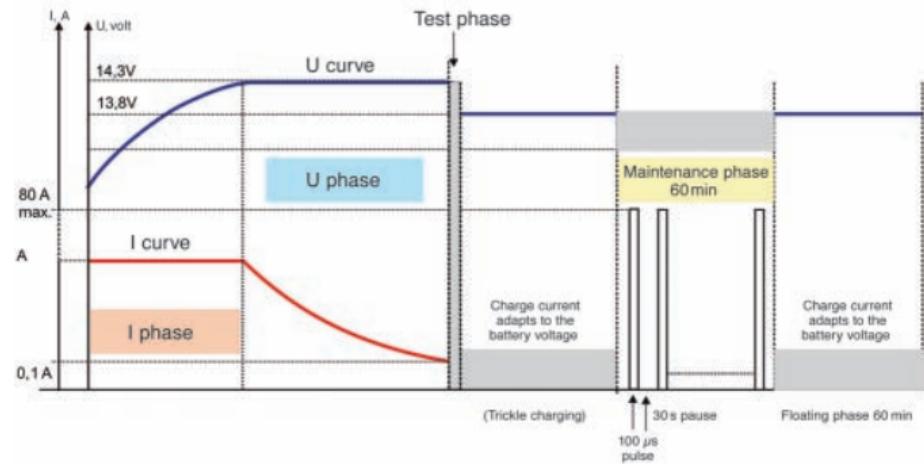
mode is subjected every 30 seconds to a discharge pulse of about 80 A (maximum) and lasting about 100 µs. The lead battery activator that is integrated in the ProCharger prevents the development of crystalline deposits of sulphate on the lead plates. These crystalline deposits of sulphate particularly tend to form in lead batteries that are stored for a long time, stored over the winter, only used rarely, or are only discharged with low currents. This periodic discharge pulse can significantly lengthen the useful life of lead batteries. The lead sulphate has a tendency to form clumps of crystals. This tendency is particularly strong when discharge is slow or during self-discharge. This reduces the plate surface within the battery (crystalline sulphate covers the lead plates), and the capacity falls. The more plate area that is covered, the less energy the lead battery can deliver. Deposits of sulphate are the main reason for the failure of lead batteries. In order to work against these sulphate deposits, when it is in continuous use the device cycles between trickle mode and maintenance mode, spending an hour in each.

Charging technology

The device has three different charging phases:

- I-phase, where the charging current is approx. 1A (motorcycle)/approx. 4A (car)
- U₁-phase (main charging phase) with a constant voltage of 14.3V
- U₂-phase (trickle charging) with a constant voltage of 13.8V

Program flow of the ProCharger



Fault display

When running, the device can indicate four different fault conditions:

1. The "12 V", "6 V" and "Fault" ("Defekt") LEDs flash:
The voltage set (with the slide switch) does not match the measured battery voltage
2. The "Fault" ("Defekt") LED is lit: The battery is found to be defective.
3. The "0 %" and "Fault" ("Defekt") LEDs flash:
The device cannot bring the battery voltage under control.
The measured battery voltage is above 15 V.
4. The "25 %" and "Fault" ("Defekt") LEDs flash:
The device cannot bring the charging current under control;
the measured battery current is greater than 1.5 A.

Faults no. 3 and 4 can be the result of a fault in the device.

Specifications

Operating voltage: 220-240 V ~, charging current up to max. 1 A

Usable temperature range: -15°C to +40°C

Charger dimensions (WxH (max.)xD): 10 x 6.5 x 15 cm

Components supplied

ProCharger, cable set with clip connectors for quick attachment, cable set with cable ring-terminals (eyes) for permanent connection to the battery, along with comprehensive operating instructions in German and English.

Guarantee

The dealer/manufacturer from whom the device was obtained guarantees the material and manufacture of the device for a period of two years from the date of receipt. In the event of a fault, the purchaser is initially only entitled to supplementary performance. Supplementary performance comprises either rectification of the fault or the supply of a substitute product. Devices or parts that have been exchanged become the property of the dealer. The purchaser must inform the dealer without delay of any faults that may be found. The right to claim against the guarantee must be supported by the provision of a proper proof of purchase (receipt, invoice etc.). Damage arising out of unsuitable handling, operation, storage, or from acts of nature or other external influences, are not covered by the guarantee. We accept no liability for any damage resulting from modifications made by the user, and the user will hold us indemnified against any claims made by third parties arising from such modifications. Unless otherwise stipulated, the current edition of our General Terms of Business apply.

Note on environmental protection



At the end of its service life, this product must not be disposed of in the ordinary domestic waste, but must be taken to a collection point for recycling electrical and electronic devices. The symbol on the product, the usage instructions or the packaging will indicate this.

The valuable materials can be reused in accordance with their identification. Through the reuse of the device, material recycling or other ways of recycling used devices, you make an important contribution to protecting our environment.

Packaging

When disposing of the packaging, observe the applicable statutes for environmental protection and for garbage disposal. The outer packaging can be disposed of with the ordinary domestic waste. If you want to dispose of the system components themselves, please observe the relevant statutes on the disposal of electronic scrap.

Cleaning

Use a soft cloth and a little mild cleaning agent to clean the housing. Harsh solvents such as thinner or petrol must not be used, nor must scouring agent, as these will attack the surface. Dispose of the cleaning wipes and excess cleaning agent in an environmentally sound manner. For reasons of safety, the mains plug must always be withdrawn and the charging cable disconnected from the battery before cleaning. Prevent any cleaning agent from getting inside the device!

If you have questions about the product....

If you have any questions about the product or these instructions, for prompt assistance please contact our Technical Centre by fax on: +49 (0)40-73419358 or by e-mail: technikcenter@louis.de. We will be pleased to provide prompt assistance. This is the best way to ensure that the product is used correctly.

Essentials equipment ...

ProCharger wall bracket

- with well-designed receptacle for the mains and charging cables

Lets you keep your ProCharger in reach and ready to use while saving space. Including fittings.

Order no. 10003627

ProCharger charging plug

For vehicle sockets (large and small) or cigarette lighters. Also suitable for BMW charging sockets.

Order no. 10003741

(no illustration)

ProCharger replacement eyelet

lead with connecting plug

Order no. 10003835

(no illustration)

ProCharger charging cable extension

Length: 2.50 metre

Order no. 10003744

(no illustration)



Example of use with ProCharger wall bracket

Exclusively
at Louis!



Standards of quality:

- ✓ Original equipment manufacturer's quality for more than 30 years – proven a million times
- ✓ Improved manufacturing method
- ✓ Enormously long service life
- ✓ Very high cold starting performance
- ✓ Suitable for ABS
- ✓ A-grade lead plates
- ✓ Includes high-performance terminal grease
- ✓ Producer certified to ISO 9001
- ✓ Including comprehensive instructions for use and servicing

DELO®
BATTERIEN

Qualität seit 1980